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North America. The fact of the writer's being actively engaged in professional duties at a Military Hospital while committing to paper the results of his investigations, will be a sufficient excuse for any evidences of hasty composition which may be apparent.

Catalogue of the MIOCENE SHELLS of the Atlantic Slope.

BY T. A. CONRAD.

In the Miocene or Upper Tertiary formation of the Atlantic Slope there have been collected about five hundred and eighty species of shells,—two hundred and seventy-two of which are Conchifera and three hundred and nine Gasteropoda. The most northern limit of this formation appears to be in Gloucester County, New Jersey, and it underlies the eastern portions of Delaware, Maryland, Virginia, North and South Carolina. I have included in the Miocene formation that portion of the South Carolina Tertiary referred to the Pliocene period by Tuomey and Holmes, because I can discover no line of demarcation by which these tertiary strata can be divided into two distinct groups. The extinct species common to South Carolina and the more Northern States are numerous, and the fauna can only be regarded as that of one geological era. Some few of the species described by Tuomey and Holmes from the South Carolina Tertiary occur also in New Jersey, at the most northern boundary of the Miocene. The percentage of recent species in South Carolina, it appears to me, should be greatly reduced,—and I would reject from the list as many as eighteen, consisting of the following shells: *Busycon canaliculatum*, *B. perversum*, *Strephona literata*, *Littorina irrorata*, *Natica canrena*, *Dolium galea*, *Fasciolaria gigantea*, *F. distans*, *Pholas costata*, *P. oblongata*, *Petricola pholadiformis*, *Solen ensis*, *Lucina divaricata*, *L. Pennsylvanica*, *Cardium magnum*, *Macra similis*, *Yoldia limatula*, *Strigilla fluxuosa*. It may be that all the species are extinct, but I have not had an opportunity of comparing all those doubtful shells with the recent forms. *Natica heros* and *N. duplicata*, *Say*, have fossil analogues in Maryland so closely resembling them that I find no essential difference; but the shells of this doubtful character are not more than thirty in number out of five hundred and eighty-one species. Near the coast, a Post-Pliocene or Pleistocene formation rests immediately on the Miocene, replete with existing forms, but as a group resembling that of more Southern latitudes on the coast of the United States. There is no intermingling of extinct species between these two formations, and the passage is almost as abrupt as between the Eocene and Miocene.

The final subsidence of the Eocene appears to have been accompanied by such an alteration of climate or other conditions as to have given origin to a totally distinct terrestrial and marine fauna, the latter existing on an Eocene and Cretaceous bed, extending from New Jersey to South Carolina inclusive, and which appears to have been generally extinct and above the sea during the existence of the European Pliocene faunas.

Works referred to.

- C. Miocene Foss.* Conrad, Medial Tertiary or Miocene Fossils of the U. S.
C. Foss. Shells of Tert. Form. Conrad, Fossil Shells of the Tertiary Formations of the United States. 1832.
Trans. Amer. Philos. Soc. Transactions of the American Philosophical Society of Philadelphia, vol. ix. n. s. 1845; vol. vi. n. s. 1839.
Sūlim. Journ. American Journal of Science and Arts.
Journ. A. N. S. Journal of the Academy of Natural Sciences of Philadelphia.
Proceed. A. N. S. Proceedings ditto.
 1862.]

Plioc. Foss. S. C. Pliocene Fossils of South Carolina.

Bullet. Nat. Inst. Bulletin of the National Institution.

Emmons, Geol. N. C. Geology of North Carolina.

MURICIDÆ.

MUREX, Lin.

M. globosus, Emmons, *Geol. N. C.* 247, 105a.

Subgenus *PTERORYTIS*, Conrad.

Fusiform; six prominent recurved foliated ribs; aperture ovate; channel closed.

M. umbrifer, *C. Tert. Foss.* 17, 3, 1. Emmons, *Geol. N. C.* 247, 104a.

M. sexcostata, Emmons, *Geol. N. C.* 248, 106.

TYPHIS, Montfort.

T. acuticosta, *C. Journ. A. N. S.* vi. 217, 9, 1. 1829.

TROPHON, Mont.

T. (Fusus) tetricus, *C. Tert. Foss.* 18, 3, 6. *Foss. Med. Tert. pl.* 46, fig. 4.

FUSINÆ.

FUSUS.

Subgenus *SCALASPIRA*, Conrad.

Fusus strumosus, *C. Tert. Foss.* 18, 3, 4. *Foss. Med. Tert. pl.* 49, fig. 3.

NEPTUNEA, Bolten.

N. (Fusus) devesa, *C. Foss. Med. Tert. pl.* 49, fig. 8. *Proceed. A. N. S.* i. 309.

N. (Fusus) exilis, *C. Tert. Foss.* 17, 3, 2. *Mioc. Foss. pl.* 49, fig. 1. Tuomey and Holmes, *Plioc. Foss. S. C.* 150, 30, 5. Emmons, *Geol. N. C.* 251, 111a?

N. (Fusus) equalis, Emmons, *Geol. N. C.* 251, 11.

N. (Fusus) filosa, *C. Proceed. A. N. S.* 1863.

N. (Fusus) lamellosa, Emmons, *Geol. N. C.* 251, 112.

N. (Fusus) parilis, *C. Tert. Foss.* 18, 4, 2. *Foss. Med. Tert. pl.* 49, fig. 5.

N. (Fusus) rustica, *C. Tert. Foss.* 18, 4, 1.

Fusus errans, *C. Journ. A. N. S.* vi. 223.

N. (Fusus) trossula, *C. Tert. Foss.* 18, 3, 5. *Foss. Med. Tert. pl.* 46, fig. 6.

FASCIOLARIIDÆ.

BUSYCON, Bolten.

B. alveatum, *C. Proceed. A. N. S.* 1862, 583.

B. adversarium, *C. Proceed.* 1863.

B. perversum, Tuomey and Holmes, (not Lam.,) *Plioc. Foss. S. C.* 145, 29, 3.

B. carinatum, *C. Proc. A. N. S.* 1862, 286.

B. (Pyrula) carica? Tuomey and Holmes, *Plioc. Foss. S. C.* 145, 29, 1.

B. (Fulgur) contrarium, *C. Sill. Journ.* xxxix. 387. *Miocene Foss. pl.* 45, f. 11.

B. perversum, Emmons, (not Lam.,) *Geol. N. C.* 249, 107.

B. (Fulgur) coronatum, *C. Bullet. Nat. Inst.* 187. *Mioc. Foss. pl.* 46, f. 1.

Pyrula canaliculata, Lyell, (not Lam.,) *Man. Geol.* 172, 151.

B. canaliferum, *C.*

Busycon canaliculatum, Tuomey and Holmes, (not Lam.,) *Plioc. Foss. S. C.* 145, 29, 2.

B. Carolinensis, Emmons, *Geol. N. C.* 249, 108.

B. (Cassidulus) Carolinense, Tuomey and Holmes, *Plioc. Foss. S. C.* 147, 30, 1.

B. (Pyrula) excavatum, *C. Sill. Journ.* xxxix. 387. *Miocene Foss. pl.* 45, f. 12.

Cassidulus Carolinensis? Tuomey and Holmes, *Plioc. Foss. S. C.* 147, 30, 1.

B. filum, *C. Proceed. A. N. S.* 1862, 286.

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- B. (Fulgur) fusiforme, C. Bullet. Nat. Inst. 187. Miocene Foss. 82, 46, 3.
 B. (Fulgur) incile, C. Sillim. Journ. xxiii. 343.
Busycon Conradi, Tuomey and Holmes, Plioc. Foss. S. C. 174, 29, 4.
 B. (Fulgur) maximum, C. Miocene Foss. pl. 47.
 B. (Fulgur) rugosum, C. Proceed. A. N. S. i, 307. Miocene Foss. pl. 46, f. 4.
 B. scalaris, C.
 B. (Fulgur) tuberculatum, C. Bullet. Nat. Inst. 185. Miocene Foss. pl. 46, f. 2.
B. canaliculatum, Tuomey and Holmes, (not Lam.,) Plioc. Foss. S. C. 146, 29.
 B. scalarispira, C. Proceed. 1862, 584.
 B. striatum, C. ib.
 B. Tritonis, Proceed. 1862, 583.

FASCIOLARIA, Lam.

- F. alternata, Emmons, Geol. N. C. 253.
 F. gigantea? Tuomey and Holmes, Plioc. Foss. S. C. 152, 30, 9.
 F. nodulosa, Emmons, Geol. N. C. 253, 116.
 F. Tuomeyi, Holmes, Pliocene Foss. S. C. 152, 30, 10.
 F? parvula, H. C. Lea, Trans. Amer. Philos. Soc. ix. 270, 37, 94.
 F. rhomboidea, Rogers, Trans. Philos. Soc. vi. 307, 30, 3.
F. distans, Tuomey and Holmes, (not Lam.,) Pliocene Foss. 151, 30, 7, 8.
 Emmons, Geol. N. C. 252, 113.
 F. Sparrowi, Emmons, Geol. N. C. 253, 115.
 F. Woodii, Gabb, Journ. A. N. S. (second series,) iv. 375, 67, 7.

Subgenus TEREBRASPIRA, Conrad.

Spire elevated, terebriform; columella three-plaited, the plates interior.

- F. acuta, Emmons, Geol. N. C. 254, 17.
 F. elegans, Emmons, Geol. N. C. 252, 114. Proceed. A. N. S. 1862, 286.

Subgenus LYROSOMA, Conrad.

- F. (Fusus) sulcosa, C. Journ. A. N. S. vi. (1829,) 220, 9, 8. Proceed. A. N. S. 1862, 286.

PERISTERIA, Mörch.

- P. (Bucc.) filicata, C. Proceed. A. N. S. i. 326.
Fusus cannabinus? C. " "
Colus cinereus, Tuomey and Holmes, Pliocene Foss. S. C. 150, 30, 6.

PLEUROTOMIDÆ.

SURCULA, Gray.

- S. (Pleurotoma) biscatenaria, C. Journ. A. N. S. vii. 140.
Pleurotoma catenata, C. Journ. A. N. S. vi. 223, 9, 13.
 S. (Pleurotoma) bella-crenata, C. Journ. A. N. S. viii. 185.
 S. (Pleurotoma) communis, C. Journ. A. N. S. vi. 224, 9, 23.
 S. engonata, C. Proceed. A. N. S. 1862, 285.
 S. (Pleurotoma) gracilis, C. Journ. A. N. S. vi. 225, 9, 10.
S. (Pleurot.) incilifera, C. ib. vii. 140.
 S. (Pleurotoma) Marylandica, C. Journ. A. N. S. viii. 185.
 S. nodulifera, C. Proceed. A. N. S. 1862, 285.
 S. (Pleurotoma) parva, C. Journ. A. N. S. vi. 225, 9, 18.
 S. (Pleurotoma) rotifera, C. Journ. A. N. S. vi. 224, 9, 9.
 S. rugata, C. Proceed. A. N. S. 1862, 285.
 S. (Pleurotoma) tricatenaia, C. Journ. A. N. S. vii. 139.
 S. (Pleurotoma) Virginiana, C. vii. 138.

DRILLIA, Gray.

- D. arata, C. Proceed. A. N. S. 1862, 285.
 D. bella, C. Proceed. A. N. S. 1862, 285.

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- D. *distans*, C. Proceed. A. N. S. 1862, 285.
 D. (Pleurot.) *dissimilis*, C. Journ. A. N. S. vi. 224, 9, 11.
Fusus pygmaeus? H. C. Lea, Philos. Trans. ix. 270, 37, 95.
 D. (Pleurot.) *eburnea*, C. Proceed. A. N. S. 1862, 285.
 D. (Pleurot.) *elegans*, Emmons, Geol. N. C. 265, 146.
 D. (Pleurot.) *flexuosa*, ib. 148.
 D. *impressa*, C. Proceed. A. N. S. 1862, 285.
 D. (Pleurot.) *limatula*, C. Journ. A. N. S. vi. 224, 9, 12.
 D. (Pleurot.) *lunata*, H. C. Lea, Philos. Trans. new series, pl. 37, fig. 93.
 Tuomey and Holmes, Plioc. Foss. 132, 27, 16, (Turris.)
P. lunata, Emmons, Geol. N. C. 264, 144.
 D. (Pleurot.) *multisecta*, C. Proceed. A. N. S. i. 326.
 D. (Pleurot.) *pyrenoides*, C. Journ. A. N. S. vii. 139.
 D. (Pleurot.) *tuberculata*, Emmons, Geol. N. C. 265, 147.

MANGELIA.

- M. *Virginiana*, C. Proceed. A. N. S. 1862, 286.

TRITONIIDÆ.

BURSA, Bolten. RANELLA, Lam.

Subgenus EUPLEURA, H. and A. Adams.

- Bursa (Ranella) *caudata*, Say, Journ. A. N. S. ii. 236, 1822.
Apollon caudata, Tuomey and Holmes, Plioc. Foss. S. C. 142, 28, 15.

BUCCINIDÆ.

TRITIA, Risso.

- T. (Bucc.) *altilis*, C. Tert. Foss. 19, 4, 6.
 T. (Fusus) *anomala*, H. C. Lea, Trans. Philos. Soc. ix. pl. 37, fig. 97.
 T. (Bucc.) *arata*, Say, Journ. A. N. S. iv. 127, 7, 4.
 T. (Bucc.) *bidentata*, Emmons, Geol. N. C. 257, 126.
 T. (Bucc.) *bilix*, C. Proceed. A. N. S. i. 308.
 T. (Bucc.) *fossulata*, C. Proceed. A. N. S. i. 308.
 T. (Nassa) *impressa*, H. C. Lea, Philos. Trans. ix. pl. 37, fig. 100.
 T. (Bucc.) *harpuloides*, C. Proceed. A. N. S. i. 326.
 T. (Bucc.) *interrupta*, C. Sillim. Journ. xli. 345, 2, 2.
 T. *irrorata*, C. *Buccinum obsoletum*, Tuomey and Holmes, (not Say,) Plioc. Foss. S. C. 135, 28, 5.
 T. (Bucc.) *moniliformis*, Emmons, Geol. N. C. 256, 125.
 T. (Bucc.) *multilunata*, Emmons, Geol. N. C. 256, 124.
 T. (Bucc.) *multirugata*, C. Sillim. Journ. xli. 345. Emmons, Geol. N. C. 255, 121. Tuomey and Holmes, Plioc. Foss. S. C. 133, 28, 2.
 T. (Bucc.) *porcina*, Say, Journ. A. N. S. iv. 126. Tuomey and Holmes, Plioc. Foss. S. C. 133, 28, 1. Emmons, Geol. N. C. 256, 122.
 T. (Bucc.) *prærupta*, C. Proceed. A. N. S. i. 308.
 T. *scalaris*, C. Proceed. A. N. S. 1862, 286.
 T. (Bucc.) *sexdentata*, C. Proceed. A. N. S. i. 308.
 T. (Nassa) *trivittata*? Say, Journ. A. N. S. ii. 231. Tuomey and Holmes, Plioc. Foss. S. C. 135, 28, 4.
 T. (Bucc.) *Tuomeyi*, H. C. Lea, Philos. Trans. ix. pl. 37, fig. 97.
 T. (Bucc.) *laqueata*, C. Tert. Foss. 19, 4, 5.

Subgenus BULLIOPSIS, Conrad.

- T. (Buccinum) *integra*, C. Bullet. Nat. Inst. No. 2, 194, 2, 5.
Buc. pusillum? H. C. Lea, Trans. Philos. Soc. ix. pl. 37, fig. 98.
 T? (Fusus) *anomala*, Trans. Amer. Philos. Soc. ix. 271, 37, 96, (young shell.)
 T. *Marylandica*, C. Proceed. A. N. S. 1862, 287.

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- T. *ovata*, C. Proceed. A. N. S. 1862, 287.
 T. (*Fusus*) *pygmæa*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 270, 37, 95, (young shell.)
 T. (*Nassa*) *quadrata*, C. Journ. A. N. S. vi. 226. Proceed. A. N. S. 1862, 287.

PURPURIDÆ.

CRONIA ? H. and A. Adams.

- C. (*Purpura*) *tridentata*, Tuomey and Holmes, Plioc. Foss. S. C. 137, 28, 9.
Cantharus Cumberlandianus, Gabb, Journ. A. N. S. (2d series,) iv. 375, 67, 6.

ECPHORA, Conrad.

- E. (*Fusus*) *4-costatus*, Say, Journ. A. N. S. iv. 127. Proceed. A. N. S. i. 310.
 Miocene Foss. 84, 48, 2.

OLIVIDÆ.

DACTYLUS, Klein.

- D ? (*Oliva*) *ancillariformis*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 274, 37, 105.
 D. (*Oliva*) *canaliculatus*, H. C. Lea, Trans. Philos. Soc. ix. pl. 37, fig. 104.
 Emmons, Geol. N. C. 259.
 D. *Carolinensis*, C. Proceed. A. N. S. 1862, 584.
Oliva litterata, C. (not Lam.) Sillim. Journ. xli. 345, 2, 1.
Strephona litterata, Tuomey and Holmes, Plioc. Foss. S. C. 140, 28, 13.
 Emmons, Geol. N. C. 259, 130.

Subgenus STREPHONA, Browne.

- D. *eboreus*, C. Proceed. A. N. S. 1862, 287.
 D. (*Oliva*) *idonea*, C. Sillim. Journ. xli. 344. Proceed. A. N. S. 1863.

Subgenus OLIVELLA.

- D. (*Oliva*) *duplicatus*, C. Proceed. A. N. S. i. 309. Emmons, Geol. N. C. 131a?

VOLUTIDÆ.

VOLUTA, Lam.

- V. *solitaria*, C. Journ. A. N. S. vi. 218.
 V. *Trenholmii*, Tuomey and Holmes, Pliocene Foss. S. C. 128, 27, 7.
 V. *obtusa*, Emmons, Geol. N. C. 263, 141.

Subgenus VOLUTIFUSUS, Conrad.

- V. *mutabilis*, C.
Fasciolaria mutabilis, C. Journ. A. N. S. vii. 135. Sill. Journ. xli. 346, 2, 7.
V. mutabilis, Tuomey and Holmes, Plioc. Foss. S. C. 128, 27, 5. Emmons, Geol. N. C. 262.

MEGOPTYGMA, Conrad.

Fusiform; smooth or entire; beak sinuous; plaits very large, the upper one very thick, suboblique.

- M. (*Voluta*) *sinuosa*, Gabb, Proceed. A. N. S. Nov. 1861, 367.

PLEIOPTYGMA, Conrad.

Subfusiform; aperture long; columella with very oblique plaits, numerous, alternated in size, or irregular, the largest being the second one from above.

- P. (*Mitra*) *Carolinensis*, C. Sillim. Journ. xli. 345. Tuomey and Holmes, Pliocene Foss. S. C. 129, 27, 9. Emmons, Geol. N. C. 260, 132.

PORCELLANA, Adams.

Subgenus VOLUTELLA, Swains.

- P. (*Marginella*) *conulus*, H. C. Lea, Trans. Am. Phil. Soc. ix. 273, 37, 102.
 P. *distans*, C. n. s.

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P. olivæformis, Tuomey and Holmes, *Plioc. Foss. S. C.* 131, 27, 12.

Marginella olivæformis, Emmons, *Geol. N. C.* 261, 133.

Subgenus GLABELLA, Swains.

P. (Marg.) constricta, Emmons, *Geol. N. C.* 261, 135.

P. (Marg.) denticulata, *C. Journ. A. N. S.* vi. 225, 9, 21.

P. (Marg.) eburneola, *C. Journ. A. N. S.* vii. 141.

P. (Marg.) exilis, H. C. Lea, *Trans. Amer. Philos. Soc.* ix. 274, 37, 103.

P. (Marg.) inflexa, Emmons, *Geol. N. C.* 261, 137.

P. (Marg.) limatula, *C. Journ. A. N. S.* vii. 140. *Miocene Foss.* pl. 47, f. 11.
Tuomey and Holmes, *Plioc. Foss. S. C.* 130, 27, 10. Emmons, *Geol.*
N. C. 261, 134.

P. (Marg.) ovata, Emmons, *Geol. N. C.* 261, 136.

Subgenus PORCELLANELLA, Conrad.

P. bella, *C. Proceed. A. N. S.* 1863.

ERATO? Risso.

E. lævis, Emmons, *Geol. N. C.* 262, 139.

COLUMBELLINÆ.

AMYCLA, H. and A. Adams.

Subgenus ASTYRIS, H. and A. Adams.

A. granulifera, *C. Proceed. A. N. S.* 1862, 287.

A. communis, *C. Proceed. A. N. S.* 1862, 287.

A. reticulata, *C.* " " " 287.

CASSIDIDÆ.

SEMICASSIS, Klein.

S. (Cassis) cæolata, *C. Journ. A. N. S.* vi. 218, 9, 14.

SCONSIA, Gray.

S. (Cassis) Hodgii, *C. Sillim. Journ.* xli. 346, 2, 10.

Galeodia Hodgii, Tuomey and Holmes, *Plioc. Foss. S. C.* 138, 28, 10. Emmons, *Geol. N. C.* 257, 128.

DOLIIDÆ.

DOLIUM.

D. galea? Lam. Tuomey and Holmes, *Pliocene Foss. S. C.* 139, 28, 11.

D? *octocostatum*, Emmons, *Geol. N. C.* 258, 129.

SYCOTYPUS, Browne. FICUS, Rousseau.

S. (Pyrula) reticulata? Lam. Tuomey and Holmes, *Plioc. Foss. S. C.* 149, 30, 3.

NATICIDÆ.

NATICA.

N. plicatella, Conrad. *N. canrena*, *C. (not Lam.,) Sill. Journ.* xli. 344. Tuomey and Holmes, *Pliocene Foss. S. C.* 115, 25, 17. Emmons, *Geol. N. C.* 267, 152.

N. Caroliniana, *C. Sill. Journ.* xli. 346, 2, 8. Tuomey and Holmes, *Pliocene Foss. S. C.* 116, 25, 18.

N. (Natica) hemicrypta, Gabb, *Journ. A. N. S. (2d series,)* iv. 375, 67, 5.

N. sphaerula and *crassilabrum*, (immature or doubtful sp.,) H. C. Lea, *Trans. Amer. Philos. Soc.* ix. 254, 36, 52.

NEVERITA, Risso.

N. (Natica) duplicata? Say, Tuomey and Holmes, *Pliocene Foss. S. C.* 114, 25, 16. Emmons, *Geol. N. C.* 266, 150.

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N. percallosa, C. Sill. Journ. xli. 348. Emmons, Geol. N. C. 267, 151.

Subgenus *LUNATIA*, Gray.

N. catenoides, Wood, British Crag. Moll. 141, 16, 10.

N. (Natica) heros, Conrad, (not Say,) Tuomey and Holmes, Pliocene Foss.

S. C. 114, 25, 15. Emmons, Geol. N. C. 267, 149.

N. (Natica) interna, Say, Journ. A. N. S. iv. 125, 7, 2.

N. (Natica) perspectiva, Rogers, Trans. Philos. Soc. vi. 36, 3.

SIGARETUS, Lam.

Subgenus *NATICINA*, Gray.

S. (Natica) fragilis, C. Journ. A. N. S. vi. 222, 9, 3. Emmons, Geol. N. C. 267, 153.

N. aperta, H. C. Lea, Trans. Amer. Philos. Soc. ix. pl. 36, f. 51.

SCALARIDÆ.

SCALA, Klein.

S. arctata, C. n. s.

S. (Scalaria) aciculata, H. C. Lea, Trans. Philos. Soc. pl. 36, f. 65.

S. (Scalaria) clathrus? Lam. Tuomey and Holmes, Pliocene Foss. S. C. 124, 26, 15.

S. (Scalaria) curta, Emmons, Geol. N. C. 271, 165.

S. distans, C. n. s.

S. (Scalaria) micropleura, H. C. Lea, Trans. Amer. Philos. Soc. pl. 36, f. 67.

S. (Scalaria) microstoma, H. C. Lea, ib. f. 68.

S. (Scalaria) procera, C. Proceed. A. N. S. i. 326.

S. (Scalaria) multistriata? Say. Tuomey and Holmes, Pliocene Foss. S. C. 120, 26, 14. Emmons, Geol. N. C. 271, 164.

Subgenus *STHENORYTIS*, Conrad.

Ovate, thick; whorls partially united; ribs very thick, distant, recurved; large whorl without a plate at base; not umbilicated.

S. (Scalaria) expansa, C. Bullet. Nat. Inst. No. 2, 194, 2, 3.

S. (Scalaria) pachypleura, C. Journ. A. N. S. viii. 186.

S. cornigera? H. C. Lea, Trans. Amer. Philos. Soc. ix. pl. 36, f. 66.

PYRAMIDELLIDÆ.

TEREBRA, Brug.

Subgenus *Acus*, Humph.

T. (Cerithium) Carolinensis, C. Sill. Journ. xli. 345.

T. (Cerith.) clavulus, H. C. Lea, Trans. Amer. Phil. Soc. ix. pl. 37, f. 89.

T. curvilirata, C. Proceed. A. N. S. i. 327.

T. indenta, C.

T. (Cerith.) dislocata, C. (not Say,) Sill. Journ. xli. 343.

T. neglecta, Emmons, Geol. N. C. 258.

T. simplex, C. Journ. A. N. S. vii. 226, 9, 22.

T. subilirata, C. n. s.

T. unilineata, C. Sill. Journ. xli. 345, 2, 4. Tuomey and Holmes, Plioc. Foss. S. C. 258, 129. Emmons, Geol. N. C. 258, 129.

OBELISCUS, Humph.

O. (Pyramidella) arenosa, C. Proceed. A. N. S. i. 309. Emmons, Geol. N. C. 268, 154.

P. suturalis, H. C. Lea, Philos. Trans. ix. pl. 36, f. 63, (young shell.)

O. (Pyram.) reticulata, Emmons, Geol. N. C. 268, 155.

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ODOSTOMIA, Fleming.

- O? (*Actæon*) *glans*, H. C. Lea, Trans. Amer. Philos. Soc. ix. pl. 36, f. 58.
 O? (*Cerithium*) *curtum*, H. C. Lea, ib. 268, 17, 90.
 O. (*Cerithium*) *dedælium*, H. C. Lea, ib. 269, 37, 91.
 O. (*Pasithea*) *granulata*, H. C. Lea, 268, 36, 54.
 O? (*Pasithea*) *lævigata*, H. C. Lea, ib. 35, 47.
 O? (*Actæon*) *nitens*, H. C. Lea, ib. 36, 60.
 O. (*Pasithea*) *ovulum*, H. C. Lea, 269, 35, 48, (young shell.)
 O. (*Actæon*) *turbinata*, H. C. Lea, ib. 36, 56.
 O? (*Pasithea*) *turbinopsis*, H. C. Lea, ib. 253, 35, 50.
 O? (*Actæon*) *sculpta*, H. C. Lea, ib. 36, 59.

TURBONILLA, Risso.

- T. (*Turritella*) *perlaqueata*, C. Journ. A. N. S. vii. 189.
 T. (*Chemnitzia*) *reticulata*, Emmons, Geol. N. C. 269, 156a.

AURICULINA, Gray.

- A. (*Pasithea*) *eburnea*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 251, 35, 46.
 A. (*Pasithea*) *exarata*, H. C. Lea, ib. 35, 44.
 A. (*Odostomea*) *limnæa*, C. Proceed. A. N. S. i. 20.
 A. (*Pasithea*) *ornata*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 253.
 A. (*Pasithea*) *subula*, H. C. Lea, Philos. Soc. ix. 251, 35, 45.

EULIMIDÆ.

NISO, Risso.

- N. (*Bonellia*) *lineata*, C. Journ. A. N. S. viii. 188.
Actæon simplex, H. C. Lea, Trans. Amer. Philos. Soc. ix. pl. 36, f. 62.

EULIMA, Risso.

- E. *eborea*, C. Proceed. A. N. S. iii. 26, f. 21.
Pasithea lævigata, H. C. Lea, Trans. Amer. Philos. Soc. ix. 252, 35, 47.
 Emmons, Geol. N. C. 268, 157.
 E. *migrans*, C. Proceed. A. N. S. iii. 26, f. 22.
E. subulata, Emmons, Geol. N. C. 268, 158.

CERITHIOPSIDÆ.

CERITHIOPSIS.

- C. (*Cerithium*) *annulatum*, Emmons, Geol. N. C. 269, 161.
 C. (*Cerithium*) *clavulus*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 268, 37, 89.
 C. (*Chemnitzia*) *Emmonsii*, C. Emmons, Geol. N. C. 268, 160.

SOLARIDÆ.

ARCHITECTONICA, Bolten.

Subgenus PHILLIPIA, Gray.

- A. (*Solarium*) *trilineata*, C. Journ. A. N. S. viii. 31.
 A. (*Solarium*) *nupera*, C. Journ. A. N. S. vii. 141.
 A. *perspectiva*? Lin., Tuomey and Holmes, Plioc. Foss. S. C. 120, 26, 6.

CONIDÆ.

CONUS, Lin.

- C. *adversarius*, C. Sill. Journ. xli. 345, 2. 3. Tuomey and Holmes, Plioc. Foss. S. C. 131, 27, 14. Emmons, Geol. N. C. 263, 142.
 C. *diluvianus*, Green, Trans. Albany Institute (1830), i. 124, 3, 2.
 C. *Marylandicus*, Green, Trans. Albany Institute (1830), 124.

CELATOCONUS, Conrad.

- C. (*Buc.*) *protractus*, C. Proceed. A. N. S. i. 308.

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CYPRÆIDÆ.

CYPRÆA, Lin.

Subgenus ARICIA, Gray.

- C. *Carolinensis*, C. Sill, Journ. xli. 346, 2, 6. Tuomey and Holmes, Pliocene Foss. S. C. 126, 27, 1. Emmons, Geol. N. C. 260, 131.
 C. *annulifera*, C. n. s.
 C. *pediculus*? Emmons, Geol. N. C. 260.

CANCELLARIDÆ.

CANCELLARIA, Lam.

- C. *alternata*, C. Journ. A. N. S. vii. 155.
 C. *Carolinensis*, C.
 C. *reticulata*, Emmons (not Lam.), Geol. N. C. 255, 119.
 C. *depressa*, Tuomey and Holmes, Pliocene Foss. S. C. 142, 28, 16.
 C. *venusta*, Tuomey and Holmes, Pliocene Foss. S. C. 144, 28, 18.
 C. *engonata*, C. Journ. A. N. S. viii. 188.
 C. *lunata*, Journ. A. N. S. vi. 222, 9, 4.
 C. *perspectiva*, C. Journ. A. N. S. vii. 136.
 C. *plagiostoma*, C. ib. vii. 136.
 C. *scalarina*, C. n. s.

Subgenus TRIGONOSTOMA, Blainville.

- F. (Cancellaria) *biplicifera*, C. Journ. A. N. S. viii. 187.

CERITHIIDÆ.

CERITHIUM.

Subgenus SICHAR, Hinds.

- C. *moniliferum*, H. C. Lea, Trans. Amer. Philos. Soc. ix. pl. 37, f. 92. Emmons, Geol. N. C. 269, 159.

TRIFORIS.

- T. (Cerith.) *bicostatus*, Emmons, Geol. N. C. 270, 162.

MELANIDÆ.

LITTORINA, Ferrusac.

- L. *Carolinensis*, C.
 L. *irrorata*, Tuomey and Holmes (not Say), Pliocene Foss. S. C. 26, 5.
 L. *lineata*, Emmons, Geol. N. C. 271, 170.

PALUDINIDÆ.

VIVIPARA, Lam.

- V. (Turbo) *glabra*, H. C. Lea, Trans. Amer. Philos. Soc. ix. pl. 37, f. 87.
 V. *subglobosa*, Emmons, Geol. N. C. 273, 186.

TURRITELLIDÆ.

TURRITELLA, Lam.

- T. *æquistriata*, C. Proceed., 1862, 584.
 T. *alticostata*, C. Journ. A. N. S. vii. 144.
 T. (Terebellum) *Burdenii*, Tuomey and Holmes, Plioc. Foss. S. C. 122, 26, 11.
 T. (Terebellum) *constrictum*, Emmons, Geol. N. C. 270.
 T. *Cumberlandia*, C. Proceed. A. N. S. 1862, 584.
 T. *exaltata*, C. ib. 1, 32. Tuomey and Holmes, 121, 26, 8.
 T. *fluxionalis*, Rogers, Trans. Philos. Soc. vi. 371.

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- T. (*Terebellum*) *striatum*, Tuomey and Holmes, *Plioc. Foss. S. C.* 120, 26, 7.
 T. *indenta*, C. Journ. *Proceed. A. N. S.* viii. 188.
 T. *octonaria*, C. *ib.* vii. 144.
 T. *plebeia*, Say, *ib.* iv. 125 ; vii. 125, 7, 1.
 T. *quadristriata*, Rogers, *Trans. Amer. Phil. Soc.* v. 331 ; and vi. 377, 24, 2.
 T. *secta*, C. *Proceed. A. N. S.* vii. 268.
 T. *terstriata*, Rogers, *Trans. Amer. Philos. Soc.* v. 331 ; and vi. 377, 24, 1.
 T. *terebriformis*, C. n. s.
 T. *variabilis*, C. Journ. A. N. S. vi. 221.

VERMETIDÆ.

VERMETUS, Adans.

- V. *Carolinensis*, C. *Proceed. A. N. S.* 1862.
 V. lumbricalis, C. (not Lam.) *Sillim. Journ.* xxviii. 109.
 V. (*Serpula*) *convolutus*, H. C. Lea, *Trans. Amer. Philos. Soc.* ix. pl. 34, f. 1.

ANGUINELLA, Conrad.

- A. *Virginiana*, C. *Miocene Foss.* 77, 44, 4.
 Vermetus Virginicus, D'Orbig. *Prodrom.* iii. 48.

PETALOCONCHUS, H. C. Lea.

- P. *sculpturatus*, H. C. Lea, *Trans. Amer. Philos. Soc.* ix. pl. 34, f. 3. Tuomey and Holmes, *Plioc. Foss. S. C.* 123, 26, 13. Emmons, *Geol. N. C.* 271, 169.
 Serpula anguina, H. C. Lea (young shell), *Trans. Amer. Philos. Soc.* ix. pl. 34, f. 2.

CECIDÆ.

CÆCUM, Gray.

- C. *annulatum*, Emmons, *Geol. N. C.* 274, 190.

CALYPTRIDÆ.

CRUCIBULUM, Schum.

- C. (*Dispotæa*) *constrictum*, C. *Bullet. Nat. Inst.* 194, 1, 2. *Miocene Foss.* 80, 45, 4.
 C. (*Dispotæa*) *costatum*, Say, *Sillim. Journ.* 11, 40.
 C. (*Dispotæa*) *costatum*, Say, *Journ. A. N. S.* iv. 132. C. *Miocene Foss.* 79, 45, 2.
 Tuomey and Holmes, *Plioc. Foss. S. C.* 107, 25, 4.
 Calyptrea pileolus, H. C. Lea, *Transactions American Philos. Soc.* ix. 248, f. 35, 38.
 C. (*Dispotæa*) *dumosum*, C. *Sillim. Journ.* xli. 346, 2, 9. *Miocene Foss.* 80.
 Tuomey and Holmes, *Plioc. Foss. S. C.* 109, 25, 6.
 C. (*Dispotæa*) *grande*, Say, *Journal Acad. Nat. Sci.* iv. 130, 7, 6. C. *Miocene Foss.* 79.
 C. (*Dispotæa*) *multilineatum*, C. *Sill. Journ.* xli. 346, 2, 8. *Miocene Foss.* 80.
 Tuomey and Holmes, *Plioc. Foss. S. C.* 107, 25, 7.
 C. (*Dispotæa*) *ramosum*, C. *Journ. A. N. S.* viii. 187. *Miocene Foss.* 79, 45, 3.
 Tuomey and Holmes, *Plioc. Foss. S. C.* 108, 25, 5. Emmons, *Geol. N. C.* 275, 191.

TROCHITA.

- T. (*Infundibulum*) *centralis*, C. *Sill. Journ.* xli. 348. *Miocene Foss.* 80, 45, 5.
 Tuomey and Holmes, *Plioc. Foss. S. C.* 109, 25, 8. Emmons, *Geol. N. C.* 276, 193.
 T. (*Infundibulum*) *concentrica*, H. C. Lea, *Trans. Amer. Philos. Soc.* ix. pl. 35, f. 39.

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- T. (Infundibulum) perarmata, C. Proceed. A. N. S. i. 31. Miocene Foss. 80, 45, 4.

CRYPTA, Humphreys.

- C. *convexa*? Say, Journ. A. N. S. ii. 227.
 C. (Crepidula) *costata*, Morton, Journ. A. N. S. vi. 115, 7, 2, 3. Tuomey and Holmes, Plioc. Foss. S. C. 112, 25, 11.
 C. (Crepidula) *cornucopia*, H. C. Lea, Trans. Amer. Philos. Soc. ix. pl. 35, f. 41.
 C. (Crepidula) *cymbæformis*, C. Proceed. A. N. S. ii. 173. Miocene Foss. pl. 45, f. 7.
 C. (Crepidula) *densata*, C. Proceed. A. N. S. i. 311. Miocene Foss. pl. 45, f. 9.
 C. (Crepidula) *fornicata*? Say, Journ. A. N. S. ii. 225. C. Miocene Foss. pl. 45, f. 10. Tuomey and Holmes, Plioc. Foss. S. C. 110, 25, 9. Emmons, Geol. N. C. 276, 194.
 C. (Crepidula) *glauca*? Say, Journ. A. N. S. ii. 226.
 C. (Crepidula) *lamina*, H. C. Lea, Trans. Amer. Philos. Soc. ix. pl. 35, f. 42.
 C. (Crepidula) *plana*? Say, Journ. A. N. S. ii. 226. Tuomey and Holmes, Plioc. Foss. S. C. iii. 25, 12. Emmons, Geol. N. C. 276.
 C. (Crepidula) *ponderosa*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 249, 35, 40.
 C. (Crepidula) *spinosa*, C. Proceed. A. N. S. i, 307. Miocene Foss. pl. 45, f. 8.

COCHLOLEPAS, Klein.

- C. (Hipponyx) *Bullii*, Tuomey and Holmes, Plioc. Foss. S. C. 112, 25, 13.

TURBINIDÆ.

MONILIA, Swains.

- M. (Monodonta) *exoluta*, C. Proceed. A. N. S. i. 309.

Subgenus LEIOTROCHUS, Conrad.

Polished, entire, without umbilicus; base of columella with two denticles.

- M. *distans*, C. Proceed. A. N. S. 1862, 288.
 M. (Trochus) *eborea*, Wagner, Journ. A. N. S. viii, 52, 1, 5.
 M? (Turbo) *caperatus*, C. Journ. A. N. S. vii. 140.
 M. (Monodonta) *Kiawahensis*, Tuomey and Holmes, Plioc. Foss. S. C. 116, 26, 1.

ZIZYPHINUS, Gray.

- Z. (Trochus) *aratus*, H. C. Lea, Philos. Trans. ix. pl. 37, fig. 85.
 Z. (Trochus) *armillatus*, Tuomey and Holmes, Pliocene Foss. S. C. 118, 26, 3.
 Z. (Trochus) *armillas*, H. C. Lea, Philos. Trans. ix. pl. 37, f. 81.
 Z. (Trochus) *bellus*, C. Journ. A. N. S. vii. 137.
 Z. (Trochus) *conus*, H. C. Lea, Trans. Amer. Philos. Soc. ix. pl. 37, f. 82.
 Z. (Trochus) *gemma*, Tuomey and Holmes, Plioc. Foss. S. C. 118, 26, 4.
 Z. (Trochus) *humilis*, C. Journ. A. N. S. vi. 219, 9, 5.
 Z. (Trochus) *labrosus*, C. ib. vii. 138.
 Z. (Trochus) *lens*, H. C. Lea, Trans. Amer. Philos. Soc. pl. 37, f. 83.
 Z. (Trochus) *Mitchelli*, C. Journ. A. N. S. vii. 137.
 Z. (Trochus) *peralveatus*, C. Journ. A. N. S. viii. 187. Proceed. A. N. S. iii. 21, 1, 25.
 Z. (Trochus) *philanthropus*, C. ib. 137. Tuomey and Holmes, Geol. S. C. 117, 26, 2. Emmons, Geol. N. C. 272, 167.
 Z. (Trochus) *Ruffinii*, H. C. Lea, Trans. Amer. Philos. Soc. ix. pl. 37, 86.
 Z. (Trochus) *reclusus*, C. Journ. A. N. S. vi. 219, 9, 6.
 Z. (Trochus) *torquatus*, H. C. Lea, Trans. Amer. Philos. Soc. pl. 37, f. 84.
 Z. (Trochus) *arenosus*, C. Emmons, Geol. N. C. 272, 168.

CEMORIA, Leach.

- C. *oblonga*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 247, 35, 37.
 1862.]

PATELLA.

P? acinaces, H. C. Lea, Trans. Amer. Philos. Soc. ix. 247, 35, 36.

CHITON.

C. transenna, H. C. Lea, Trans. Amer. Philos. Soc. ix. 246, 35, 35.

UMBONIIDÆ.

UMBONIUM, Link. ROTELLA, Lam.

U? (Rotella) subconica, H. C. Lea, Trans. ix. 263, 36, 77.

carinata, ib. 78.

lenticularis, ib. 79.

umbilicata, ib. 80.

CARINORBIS, Conrad.

C. (Delphinula) arenosus, C. Proceed. A. N. S. iii. 20.

C. (Delphinula) costulatus, H. C. Lea, Trans. Amer. Philos. Soc. ix. 260, 36, 69.

C. distans, C. Proceed. A. N. S. 1862, 288.

C. (Delphinula) lyra, C. Journ. A. N. S. vii. 141. Proceed. iii. 20, 1, 27.

Delp. globulus, H. C. Lea, Trans. Amer. Philos. Soc. ix. 262, 36, 74.

C? ———, Emmons, Geol. N. C. 258, 181.

C. (Delphinula) quadricostata, Emmons, Geol. N. C. 269, 180.

FISSURELLIDÆ.

FISSURELLA, Lam.

F. alticosta, C. Journ. A. N. S. vii. 142.

F. catilliformis, Rogers, Trans. Amer. Philos. Soc. v. 332; and vi. 377, 26, 1.

F. Griscomi, C. Miocene Foss. 78, 44, 8.

F. Marylandica, C. Proceed. A. N. S. i. 31. Miocene Foss. 79, 45, 1.

F. nassula, C. Miocene Foss. 78, 44, 6.

F. redimicula, Say, Journ. A. N. S. iv. 8, 1. Miocene Foss. 78. Tuomey and Holmes, Plioc. Foss. 113, 25, 14.

DENTALIDÆ.

DENTALIUM.

D. attenuatum, Say, Journ. A. N. S. iv. 154, 8, 3. Tuomey and Holmes, Pliocene Foss. S. C. 105, 25, 1.

D. Carolinense, C. Proceed. A. N. S. 1862.

D. duodecenaria, C. Emmons, Geol. N. C. 274, 188.

D. thallus, C. Journ. A. N. S. vii. 142. Tuomey and Holmes, Pliocene Foss. 106, 25, 3. Emmons, Geol. N. C. 274, 189.

D. pliocenum, Tuomey and Holmes, Pliocene Foss. 105, 25, 2.

TORNATELLIDÆ.

ACTÆON, Montf.

A. angulatus, H. C. Lea, Trans. Amer. Philos. Soc. ix. pl. 37, f. 57.

A. glans, H. C. Lea, ib. 58.

A. globosus, H. C. Lea, ib. pl. 37, f. 55.

A. melanoides, C. Journ. A. N. S. vi. 227.

A. novellus, C. ib. vii. 142.

A. ovoides, C. ib. 226.

A. sculptus, H. C. Lea, Trans. Amer. Philos. Soc. ix. pl. 37, f. 59.

A.? turbinatus, H. C. Lea, ib. f. 56.

CYLICHNIDÆ.

VOLVULA, Adams.

V. (Ovula) iota, C. Proceed. A. N. S. i. 309.

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BULLIDÆ.

BULLA.

- B. cylindrus, H. C. Lea, Trans. Amer. Philos. Soc. pl. 35, f. 43.
 B. subspissa, C. Proceed. A. N. S. iii. 20.

TORNATINA, H. and A. Adams.

- T. cylindrica, Emmons, Geol. N. C. 272, 182.

AURICULIDÆ.

MELAMPUS, Montf.

Subgenus ENSIPHORUS, Conrad.

- M. longidens, C. Proceed. A. N. S. 1862, 584.

CONCHIFERA.

PHOLADIDÆ.

PHOLAS, Lin.

- P. arcuata, C. Proceed. Nat. Inst. 187 (1841). *P. acuminata*, C. Miocene Foss. 77, 44, 2. *P. costata*, Tuomey and Holmes, (not Lam.) Plioc. Foss. S. C. 102, 24, 4.
 P. producta, C. *P. oblongata*, Tuomey and Holmes, (not Say.) Plioc. Foss. S. C. 103, 24, 5.
 P? rhomboidea, H. C. Lea, Trans. Amer. Philos. Soc. ix. 235, 34, 7.

TEREDO.

- T. calamus, H. C. Lea, Trans. Amer. Philos. Soc. ix. 234, 34, 4.
 T. fistula, ib. 5.

GASTROCHÆNA, Lam.

- G. ligula, H. C. Lea, Trans. Amer. Philos. Soc. ix. 234, 34, 6.

SOLENIIDÆ.

ENSIS, Shum.

- E. (Solen) ensiformis, C. Proceed. A. N. S. i. 326.
 E. (Solen) directus, C. ib. 325.
S. ensis, Tuomey and Holmes, (not Lin.) Plioc. Foss. 101, 24, 3.
 E. (Solen) magnodentatus, H. C. Lea, Trans. Amer. Philos. Soc. ix. 236, 34, 8.

SILICUARIA, Schum.

- S. equalis, C. *Solecortus subteres*. Emmons, (not Con.) Geol. N. C. 299, 228a.
 S. Carolinensis, C. *Cultellus Caribæus*, C. (not Lam.) Miocene Foss. 75, 43, 1.
Solecortus Caribæus, Tuomey and Holmes, (not Lam.) Plioc. Foss. S. C. 99, 23, 12, 13. Emmons, Geol. N. C. 299, 228a.

SAXICAVIDÆ.

SAXICAVA, Fleurian de Bellevue.

- S. bilineata, C. Miocene Foss. 18, 10, 4.
 S. (Hidella) lancea, H. C. Lea, Trans. Amer. Philos. Soc. ix. 242, 24.
 S. pectorosa, C. Sillim. Journ. xxiii. 130. Miocene Foss. 18, 10, 3.
 S. rugosa? Lam., Bullet. Nat. Inst. 187.

GLYCIMERIS, Klein.

- G. (Panop.) Americana, C. Miocene Foss. 4, 2.
 G. (Panop.) dubia, H. C. Lea, Trans. Amer. Philos. Soc. ix. 236, 34, 9.
 G. (Panop.) Goldfussii, Wagner, Journ. A. N. S. viii. 52, 8, 3.
 1862.]

- G. (Panop.) porrecta?* C.
G. (Panop.) porrecta, C. Miocene Foss. 71, 41, 2, 1842.
G. (Panop.) reflexa, Say, Journ. A. N. S. iv. 153, 13, 4. Miocene Foss. 5, 3, 4.
 Tuomey and Holmes, Plioc. Foss. S. C. 100, 24, 1. Emmons, Geol. N. C. 300, 229.

PARAMYA, Conrad.

- P. (Myalina) subovata*, C. Miocene Foss. 65, 36, 4.

MYIDÆ.

MYA, Lin.

- M. corpulenta*, C. Miocene Foss. 68, 39, 1.
M. producta, C. ib. 1, 1, 1.
M. reflexa, H. C. Lea, Trans. Amer. Philos. Soc. ix. 234, 34, 10.

CORBULIDÆ.

CORBULA, Brug.

- C. cuneata*, Say, Journ. A. N. S. iv. 152, 13, 3. C. Miocene Foss. 5, 3, 2.
 Tuomey and Holmes, Plioc. Foss. S. C. 75, 20, 11.
C. elevata, C. Miocene Foss. 7, 4, 3.
C. idonea, C. Sillim. Journ. xxiii. 341. Miocene Foss. 6, 10, 6.
C. inæqualis, Say, Journ. A. N. S. iv. 3, 2. C. ib. 6, 3, 3. Tuomey and Holmes,
 Plioc. Foss. S. C. 76, 20, 12.

ANATINIDÆ.

PERIPLOMA, Schum.

- P. (Anatina) antiqua*, C. Journ. A. N. S. vii. 130. Miocene Foss. 16, 8, 3.
P. alta, C. Proceed. 1862, 585.

THRACIA.

- T? transversa*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 237, 34, 11.

PHOLADOMYA, Sowerby.

Subgenus MARGARITARIA, Conrad.

- P. abrupta*, C. Foss. Shells of Tert. Form. 26, 12. Miocene Foss. 3, 1, 4. Tuomey and Holmes, Plioc. Foss. S. C. 101, 22, 2. Emmons, Geol. N. C. 300, 231.

PANDORA, Soland.

- P. crassidens*, C. Miocene Foss. 2, 1, 2.

PANDORELLA, Conrad.

Elongated; a triangular fosset under the beak; no cardinal teeth.

- P. (Pandora) arenosa*, C. Journ. A. N. S. vi. 131.

MACTRIDÆ.

MACTRA, Lin. SCISSODESMA, Gray.

- M. (Mactra) delumbis*, C. Foss. Shells of Tert. Form. 26, 11. Miocene Foss. 27, 15, 1.
M. ponderosa, C. Journ. A. N. S. vi. 228, 10, 5. Miocene Foss. 25, 14, 1.
M. subponderosa, D'Orbig. Prodrom. iii. 100.

HEMIMACTRA, Swains. SPIZULA, Gray.

- H. (Mactra) congesta*, C. Sill. Journ. xxiii. 340. C. Miocene Foss. 27, 15, 2.
 Tuomey and Holmes, Plioc. Foss. 98, 23, 10. Emmons, Geol. N. C. 298.
H. (Mactra) modicella, C. Sill. Journ. xxiii. 340. Miocene Shells, 25, 13, 3.
H. (Mactra) medialis, C. n. s.
H. (Mactra) similis? Say, Journ. A. N. S. ii. 309. Emmons, Geol. N. C. 298.
 Tuomey and Holmes, Plioc. Foss. S. C. 97, 23, 8.

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MULINIA, Gray.

- M. (*Mactra*) *crassidens*, C. Sill. Journ. xli. 346, 2, 11. C. Mioc. Foss. 69, 39, 5.
 M. (*Mactra*) *triquetra*, C. Sillim. Journ. xli. 346, 2, 11. Miocene Foss. 69, 39, 3.

RANGIA, Desmoulins.

Subgenus PERISSODON, Conrad.

- R. (*Mactra*) *clathrodonta*, C. Sillim. Journ. xxiii. 340.
Gnathodon Grayi, Miocene Foss. 23, 13, 1. Tuomey and Holmes, Plioc. Foss. S. C. 99, 23, 2. Emmons, Geol. N. C. 298, 226a.
G. minor, Tuomey and Holmes, (not Conrad,) Plioc. Foss. S. C. 99, 23, 2.
Gnathodon cuneatus, Tuomey and Holmes, Post Pliocene Foss. S. C. (pars.)
 R. (*Gnath.*) *minor*, C. Sill. Journ. xli. 347, 2, 14. Miocene Foss. 69, 39, 6.

LUTRARIINÆ.

STANDELLA, Gray.

- S. (*Mactra*) *congesta*, C. Miocene Foss. 27, 15, 2. Tuomey and Holmes, Plioc. Foss. S. C. 98, 23, 10. Emmons, Geol. N. C. 298.
 S. (*Mactra*) *lateralis*, Say, Journ. A. N. S. ii. 309. Tuomey and Holmes, Plioc. Foss. S. C. 97, 23, 9. Emmons, Geol. N. C. 298, 227.
 S. (*Mactra*) *fragilis*? Chemnitz.
Mactra oblongata, Say, Tuomey and Holmes, Plioc. Foss. S. C. 96, 23, 7. Emmons, Geol. N. C. 298.
 S. (*Mactra*) *subparilis*, Sill. Journ. xli. pl. 2, f. 12. Miocene Foss. 69, 39, 4.

TELLINIDÆ.

PSAMMOCOLA, Blain.

- P? *lucinoides*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 234, 34, 16.
 P? *pleiocena*, Tuomey and Holmes, Plioc. Foss. S. C. 91, 22, 8.

TELLINA, Lin.

Subgenus ANGULUS, Mühl.

- T. *polita*? Say, Journ. A. N. S. ii. 276, 65, 2. Tuomey and Holmes, Plioc. Foss. S. C. 91, 22, 6.
 T. *declivis*, Say, Journ. A. N. S. vii. 131. C. Miocene Foss. 35, 19, 1.

Subgenus PEROMÆDERMA, Mörch.

- T. *alternata*? Say, Journ. A. N. S. ii. 275. Tuomey and Holmes, Plioc. Foss. S. C. 91, 22, 6.
 T. *arctata*, C. Miocene Foss. 72, 41, 5.
 T. *egena*, C. ib. 35, 19, 4.
 T. *producta*, C. ib. 36, 19, 5.
 T. *lenis*, C. Miocene Foss. 72, 41, 9.
 T. *lusoria*? Say, Journ. A. N. S. v. 316. C. Miocene Foss. 35, 19, 3. Tuomey and Holmes, Plioc. Foss. S. C. 89, 22, 5. Emmons, Geol. N. C. 297, 225a.

METIS, H. and A. Adams.

- M. (*Tellina*) *biplicata*, Miocene Shells, 36, 19, 4. Tuomey and Holmes, Plioc. Foss. S. C. 88, 22, 3. Emmons, Geol. N. C. 296, 225.

STRIGILLA, Turton.

- S. *Carolinensis*, C.
Tellina fluxuosa, Tuomey and Holmes, (not Say,) Plioc. Foss. S. C. 90, 22, 7.

DONACINÆ.

DONAX, Lin.

- D. *variabilis*? Tuomey and Holmes, Plioc. Foss. S. C. 95, 23, 6.
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D? ———, Emmons, Geol. N. C. 298, 226.

SCROBICULARIINÆ.

ABRA, Leach.

- A. (*Amphidesma*) *carinata*, C. Journ. A. N. S. vi. 229, 9, 23. Miocene Foss. 37, 19, 7. Tuomey and Holmes, Plioc. Foss. S. C. 93, 23, 2.
 A. (*Amphidesma*) *equalis*, Say, Amer. Conch. pl. 28. C. Miocene Foss. 76, 43, 9. Tuomey and Holmes, Plioc. Foss. S. C. 93, 23, 3.
 A. (*Amphidesma*) *æquata*, C. Miocene Foss. 65, 36, 5. Tuomey and Holmes, Plioc. Foss. S. C. 95, 23, 5.
 A. (*Amphidesma*) *protecta*, C. Sillim. Journ. xli. 347. C. Miocene Foss. 73, 41, 7.
 A. (*Amphidesma*) *subreflexa*, C. Journ. A. N. S. vii. 133. Miocene Foss. 37, 19, 6.
 A. (*Amphidesma*) *subovata*, Say, Journ. A. N. S. iv. 152, 10, 6. C. Miocene Foss. 36.
 A. (*Amphidesma*) *nuculoides*, C. Sill. xli. 347. Miocene Foss. 73, 41, 6.

PAPHIINÆ.

MESODESMA, Desh.

- M. (*Mactra*) *confraga*, C. Sillim. Journ. xxiii. 340. Miocene Foss. 26, 14, 2.
 M. (*Mactra*) *incrassata*, C. Miocene Foss. 24, 13, 2.

SEMELE, Schum. AMPHIDESMA, Lam.

- S. (*Amphidesma*) *orbiculata*? Say, Tuomey and Holmes, Plioc. Foss. S. C. 94, 23, 4.

FABELLA, Conrad.

- F. (*Amphidesma*) *constricta*, C. Sillim. Journ. xli. 347. C. Miocene Foss. 76, 43, 10. Proceed. A. N. S. 1862, 586.

CUMINGIA, Sowerby.

- C. (*Mactra*) *tellinoides*, C. Journ. A. N. S. vi. 258, 11, 2-3.
Anatina tellinoides, H. C. Lea, Trans. Amer. Philos. Soc. ix. 237, 34, 12.
Lavignon tellinoides, Tuomey and Holmes, Plioc. Foss. S. C. 92, 23, 1.

VENERIDÆ.

MERCENARIA, Schum.

- M. (*Venus*) *cancellata*, Gabb, Journ. A. N. S. iv. 376, 67, 25, (1860.)
 M. (*Venus*) *capax*, C. Miocene Foss. 68, 39, 4.
 M. *mercenaria*? Lin. C. Sillim. Journ. xli. 344. Tuomey and Holmes, Plioc. Foss. S. C. 81, 21, 6.
 M. (*Venus*) *permagna*, C. Foss. of Tert. Form. 9. Proceed. A. N. S. i. 324. Tuomey and Holmes, Plioc. Foss. S. C. 86, 22, 2.
 M. (*Venus*) *Rileyi*, C. Miocene Foss. 9, 6, 1. Tuomey and Holmes, Plioc. Foss. S. C. 78, 21, 8. Emmons, Geol. N. C. 292.
 M. (*Venus*) *submortoni*, D'Orbigny, Prodrom. iii. 108.
M. (Venus) Mortoni, C. Journ. A. N. S. vii. 251. Miocene Foss. 8, 5, 1.
 M. (*Venus*) *tetrica*, C. Miocene Foss. 7, 4, 1.
 M. (*Cyprina*) *tridacnoides*, Lam. An. sans Vert. v. 565. C. Miocene Foss. 10, 7, 2. Tuomey and Holmes, Plioc. Foss. S. C. 85, 22, 1. Emmons, Geol. N. C. 292.
V. deformis, Say, Journ. A. N. S. iv. 148, 12, 2.

VENUS, Lin.

- V? *ascia*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 242, 34, 23.
 V. *Ducatellii*, C. Miocene Foss. 8, 4, 2.

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CIRCUMPHALUS, Klein.

Subgenus LIROPHORA, Conrad.

- C. (Venus) *athleta*, C. Proceed. 1862, 586.
V. paphia, Lam. (not Lin.)
V. alveata, Say, (not Conrad,) Amer. Conch. pl. 63.
V. latilirata, Tuomey and Holmes, (not Conrad,) Plioc. Foss. S. C. 85, 21,
 12. Emmons, Geol. N. C. 293, 219.
 C. (Venus) *alveatus*, C. Miocene Foss. 9, 5, 2.
 C. (Venus) *latiliratus*, ib. 68, 38, 3.

DIONE, Gray.

- D. (Cytherea) *albaria*, Say, American Conch. pl. 59. Miocene Foss. 13, 8, 2.
 D. *Marylandica*, C.
 D. (Cytherea) *Carolinensis*, C. Sillim. Journ. xli. 343.
 D. *densata*, Proceed. A. N. S. 1862, 586.
 D. (Cytherea) *elevata*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 241, 34, 21.
 D. *idonea*, C. *albaria*, C. (not Say,) Miocene Foss. pl. 8, f. 2.
 D. (Cytherea) *Marylandica*, C. Sillim. Journ. xxiii. 343. Miocene Foss. 15, 9, 1.
 D. (Cytherea) *obovata*, C. Journ. A. N. S. vi. 132. Miocene Foss. 14, 8, 4.
 D. (Cytherea) *reposita*, C. Journ. A. N. S. vii. 132. Miocene Foss. 15, 9, 2.
 Emmons, 5, 2.
 D. (Cytherea) *Sayana*, C. Miocene Foss. 13, 7, 3. Tuomey and Holmes, Plioc.
 Foss. S. C. 83, 21, 9. Emmons, Geol. N. C. 294, 1.
C. convexa, C. (not Say,) Miocene Foss. 13, 7, 3.
 D. (Cytherea) *spherica*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 241, 34, 22.
 D. (Cytherea) *staminea*, C. Miocene Foss. pl. 21, f. 1.
 D. (Cytherea) *subnasuta*, C. Miocene Foss. 72, 41, 3. Tuomey and Holmes,
 Plioc. Foss. S. C. 80, 21, 3.
 D. *Virginiana*, C. Proceed. A. N. S. 1862, 586.

Subgenus CHAMELEA, Klein.

- C. (V.) *cancellata*? Lin. Tuomey and Holmes, Plioc. Foss. S. C. 84, 21, 11.
 C. (Venus) *cribraria*, C. Proceed. A. N. S. i. 310. Miocene Foss. 67, 38, 2. Tuomey and Holmes, Plioc. Foss. S. C. 83, 21, 10.
 C. (Venus) *cortinaria*, Rogers, Trans. Amer. Philos. Soc. v. 333. C. Miocene Foss. 11, 8, 1.

GEMMA.

- G. (Venus) *sphærica*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 241, 34, 22.

CIRCE.

- C. (Cyth.) *metastriata*, C. Miocene Foss. 14, 8, 5. Tuomey and Holmes, Plioc. Foss. S. C. 79, 21, 1-2. Emmons, 293, 220.

DOSINIA, Scopoli.

- D. (Art.) *acetabulum*, C. Tert. Foss. 20, 61. Miocene Foss. 29, 16, 1.
 D. (Art.) *elegans*, C. Proceed. A. N. S. i. 325. Miocene Foss. 67, 38, 1.
D. transversus, Emmons, Geol. N. C. 295, 223-4.
 D. *intermedia*, C.
Venus concentrica, Tuomey and Holmes, (not Born,) Plioc. Foss. S. C. 82, 21, 7.

CLEMENTIA, Gray.

- C. (Venus) *inoceriformis*, Wagner, viii. 1, 2, C. Miocene Foss. 70, 40, 1.
Clementia inoceriformis, C. Index to Miocene Foss.

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PETRICOLIDÆ.

PETRICOLA, Lam.

P. compressa, H. C. Lea, Journ. Amer. Philos. Soc. ix. 239, 34, 15.

P. Carolinensis, C.

P. pholadiformis, Tuomey and Holmes (not Lam.), Plioc. Foss. S. C. 87, 21, 5,

PLIORYTIS, Conrad.

P. (Petricola) centenaria, C. Sill. xxiii. 341. Mioc. 17, 10, 1.

Psammocola regia, H. C. Lea, Trans. Amer. Philos. Soc. ix. 234, 34, 17.

P. Pliocena, Tuomey and Holmes, Pliocene Foss. S. C. 91, 22, 8.

Capsa centenaria, D'Orbig. Prodrom. iii. 103.

CYRENIDÆ.

CORBICULA, Megerle.

C. (Cyrena) densata, C. Mioc. Foss. 68, 39, 2. Tuomey and Holmes, Plioc. Foss. S. C. 77, 20, 14. Emmons, Geol. N. C. 290, 215a.

CARDIIDÆ.

CARDIUM, Lin.

Subgenus CERASTODERMA, Poli.

C. acutillaqueatum, C. Miocene Foss. 34, 18, 2.

C. Carolinensis, C.

C. magnum, Tuomey and Holmes (not Born), Plioc. Foss. S. C. 63, 19, 1. Emmons, Geol. N. C. 301.

C. craticuloides, C. Miocene Foss. 66, 37, 3.

C. laqueatum, C. Miocene Foss. 31, 17, 1.

C. leptopleura, C. Miocene Foss. 66, 37, 5.

C. Virginianum, C. Miocene Foss. 33, 18, 1. April, 1839.

C. quadrans, Rogers, Trans. Amer. Philos. Soc. v. 375, 30, 1. Dec., 1839.

Subgenus LÆVICARDIUM, Swains.

C. sublineatum, C. Sillim. Journ. xli. 347, 2, 13. Miocene Foss. 66, 37, 4.

Subgenus TRACHYCARDIUM, Mörch.

C. muricatum? Lin., Tuomey and Holmes, Plioc. Foss. S. C. 64, 19, 2. Emmons, Geol. N. C. 301, 232-3.

BUCARDIIDÆ.

BUCARDIA, Lister.

B. (Isocardia) fraterna, Say, (*I. rustica*, Con.) Miocene Foss. 20, 11, 1.

I. Conradi, D'Orbig. Prodromus, iii. 121.

B. (Isocardia) Markoei, C. Bullet. Nat. Inst. 193, 2, 1.

CHAMIDÆ.

CHAMA, Lin.

C. congregata, C. Sillim. Journ. xxiii. 341. Miocene Foss. 32, 17, 2. Tuomey and Holmes, 23, 7, 7-10.

C. corticosa, C. ib. 17, 3. Tuomey and Holmes, Plioc. Foss. 22, 7, 1, 2, 3. Emmons, 286, 210.

C. striata, Emmons, Geol. N. C. 286.

ARCINELLA, Schum.

A. (Chama) arcinella, Lin., Tuomey and Holmes, Plioc. Foss. S. C. 22, 7, 4-6. Emmons, Geol. N. C. 286, 210.

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LUCINIDÆ.

LUCINA, Brug.

- L. Americana*, De France, Dict. des Sciences Nat. Art. Lucina, 1823.
L. anodonta, Say, Journ. A. N. S. iv. 146, 10, 9, 1824. C. Miocene Foss. 39, 20, 4. Tuomey and Holmes, Pliocene Foss. S. C. 55, 18, 2. Emmons, Geol. N. C. 291.
L. contracta, Say, Journ. A. N. S. iv. 145, 10, 8. C. Miocene Foss. 39, 20, 5. Tuomey and Holmes, Plioc. Foss. S. C. 54, 18, 1.
L. crenulata, C. Miocene Foss. 39, 20, 2.
L. Foremani, C. Journ. A. N. S. viii. 184. Miocene Foss. 71, 40, 4. Emmons, Geol. N. C. 291, 217.
L. Leana, D'Orbig. Prodrom. iii. 117.
Lucina lens, H. C. Lea, Trans. A. P. S. ix. 240, 34, 19.
L. subobliqua, Say, Journ. A. N. S. iv. 147.
L. subplanata, C. Journ. A. N. S. viii. 184.
L. trisulcata, C. Sillim. Journ. xli. 346. Miocene Foss. 74, 40, 5.
L. undula, C. Miocene Foss. 71, 41, 1.

Subgenus CODAKIA, Scopoli.

- C. (*Lucina*) *cribraria*, Say, Journ. A. N. S. iv. 147, 13, 1. Emmons, Geol. N. C. 293, 218.
C. (*Lucina*) *multistriata*, C. Miocene Foss. 71, 40, 6. Tuomey and Holmes, Plioc. Foss. S. C. 61, 18, 16, 17.
C. (*Lucina*) *speciosa*, Rogers, Trans. A. P. S. n. s. v. 333, 26, 6.
L. squamosa, Conrad, (not Lam.) Miocene Foss. 38, 20, 1.

Subgenus CYCLAS, Klein.

- Lucina* *Conradii*, D'Orbig. Prodrom. iii. 117, 2194.
L. divaricata, var., Say, Journ. A. N. S. iv. 148. C. Miocene Foss. 39, 20, 3. Tuomey and Holmes, Plioc. Foss. S. C. 59, 18, 10, 11.

UNGULINIDÆ.

MYSIA, Leach.

- M. *acclinis*, C. Foss. Shells of Tert. Form. 21, 6, 2.
Mysia Americana, C. Miocene Foss. 30, 16, 2.
Lucina Americana, Conrad (not DeFrance), D'Orbig. Prodrom. iii. 117, 2191.
M. *elevata*, C. Miocene Foss. 73, 41, 8.

SPHÆRELLA, Conrad.

- S. *subvexa*, C. Miocene Foss. 18, 10, 2.
Erycina subconveza, D'Orbig. Prodrom. iii. 115, 2152.

KELLIA, Turton.

- K. (*Aligena*) *lævis*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 238, 34, 13, 1.
Erycina sublævis, D'Orbig. Prodrom. iii. 115, 2153.
K. *striata*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 238, 34, 14.

LEPTONIDÆ.

LEPTON, Turton.

- L. *mactroides*, C. Journ. A. N. S. vii. 151. Miocene Foss. 19, 10, 5.
Erycina mactroides, D'Orbig. Prodrom. iii. 115, 2153.

CRASSATELLIDÆ.

ASTARTE, Sowerby.

- A. *arata*, C. Miocene Foss. 42, 20, 8.
A. *bella*, C. Proceed. A. N. S. 1862, 585.
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- A. concentrica*, Tuomey and Holmes (not Conrad), Plioc. Foss. S. C. 71.
20, 3. Emmons, Geol. N. C. 289, 212.
A. concentrica, C. Journ. A. N. S. vii. 123. Miocene Foss. 44, 21, 6.
A. cuneiformis, C. Miocene Foss. 42, 20, 9.
A. Coheni, C. Miocene Foss. 43, 21, 5.
A. distans, C. Proceed. A. N. S. June, 1862, 288.
A. exaltata, C. Proceed. A. N. S. i. 29. Miocene Foss. 66, 37, 6.
A. lineolata, H. C. Lea, Trans. Amer. Philos. Soc. ix. 241, 34, 20.
A. obruta, C. Journ. A. N. S. vii. 15. Miocene Foss. 43, 21, 2.
A. perplana, C. Miocene Foss. 43, 21, 3.
A. planulata, C. Bullet. Nat. Inst. 187.
A. symmetrica, C. Miocene Foss. 44, 21, 7.
A. Thomasii, C. Proceed. A. N. S. vii. 267.
A. undulata, Say, Journ. A. N. S. iv. 150, 9, 5. C. Miocene Foss. 41, 20, 7 and
21, 4. Tuomey and Holmes, Plioc. Foss. S. C. 70, 20, 1, 2. Emmons,
Geol. N. C. 289, 213.
A. vicina, Say, Journ. A. N. S. iv. 151, 9, 6. C. Miocene Foss. 41.
A. varians, C. Proceed. A. N. S. i. 29. Miocene Foss. 67, 37, 7.
A. Virginica, Proceed. A. N. S. 1862, 585.

EULOXIA, Conrad.

- E. (Venus) latisulcata*, C. Miocene Foss. 40, 20, 6.
Astarte latisulcata, D'Orb. Prodrom. iii. 112, 2089.

GOULDIA, C. B. Adams.

- G. (Astarte) lunulata*, C. Miocene Foss. 44, 21, 8.
A. lunulata, Tuomey and Holmes, Plioc. Foss. S. C. 72, 20, 4.

ERYCINELLA, Con.

- E. ovalis*, C. Miocene Foss. 74, 42, 5.
Erycina ovalis, D'Orbig. Prodrom. iii. 115.

CRASSATELLA, Lam.

- C. curta*, C. n. s.
C. Marylandica, C. Miocene Foss. 21, 12, 1.
C. melina, C. Miocene Foss. 22, 12, 2.
C. turgidula, C. Miocene Foss. 69, 39, 7.
C. undulata, Say, Journ. A. N. S. iv. 142, 11, 2. C. Miocene Foss. 21, 11, 2.

CARDITIDÆ.

ACTINOBOLUS, Klein.

- A. (Cardita) carinata*, Emmons, Geol. N. C. 302.
A. (Cardita) granulata, Say, Journ. A. N. S. iv. 142, 11, 1. C. Sillim. Journ.
xxviii. 110. Mioc. Foss. 12, 7, 1. Tuomey and Holmes, Plioc. Foss. S. C.
66, 19, 6, 7. Emmons, Geol. N. C. 302, 236a.
A. (Cardita) tridentata, Say, Journ. A. N. S. v. 216. C. Miocene Foss. 76, 43,
11. Tuomey and Holmes, Plioc. Foss. S. C. 67, 19, 8, 9. Emmons, Geol.
N. C. 302, 236a.

Subgenus PTEROMERIS, Conrad.

- P. (Cardita) abbreviata*, Sillim. Journ. xli. 2, 17. Miocene Foss. 77, 43, 12.
Tuomey and Holmes, Plioc. Foss. S. C. 69, 19, 12. Emmons, Geol. N. C.
302, 235.
P. radians, C. Sillim. Journ. xli. 2, 16. Miocene Foss. 77, 43, 13.

CARDITAMERA, Conrad. LAZARIA, Gray.

- C. aculeata*. Proceed. A. N. S. 1862, 585.

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- C. *arata*, C. Miocene Foss. 11, 6, 2.
Cardita arata, Tuomey and Holmes, Plioc. Foss. S. C. 65, 19, 4, 5. Emmons, Geol. N. C. 302, 234.
- C. *carinata*, C. Proceed. A. N. S. 1, 305. Miocene Foss. 65, 37, 1.
Cardita pseudo-carinata, D'Orbig. Prodrom. iii. 114, 2133.
Cardita carinata, Tuomey and Holmes, Plioc. Foss. S. C. 67, 19, 10.
- C. *protracta*, C. Proceed. A. N. S. i. 37, 2. Miocene Foss. 65, 37, 2.
Cardita protracta, D'Orbig. Prodrom. iii. 114, 2134.

MYTILIDÆ.

PERNA, Adans. MODIOLA, Lam.

- P. (*Modiola*) *spinigera*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 244, 35, 30.
- P. (*Modiola*) *Ducatellii*, C. Miocene Foss. 53, 28, 2.
- P. (*Mytilus*) *inflata*, Tuomey and Holmes, Plioc. Foss. S. C. 33, 14, 3.

MYTILICONCHA, Conrad.

- M. (*Myoconcha*) *incurva*, C. Miocene Foss. 52, 28, 1.
- M. *incrassatus*, C. Sillim. Journ. xli. 247. Tuomey and Holmes, Plioc. Foss. S. C. 32, 14, 1, 2. Emmons, Geol. N. C. 283, 203A.
Mytilus Conradinus, D'Orbig. Prodrom. iii. 127.

CRENELLA, Brown.

- C. (*Nucula*) *æquilatera*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 243, 34, 27.

STALAGMIUM, Conrad, 1833.

- S. —. A minute species occurs at Yorktown (specimen lost).

AVICULA.

- A. *multangula*, H. C. Lea, Trans. Amer. Philos. Soc. ix. 245, 35, 31.

ISOGNOMEN, Klein. PERNA, Brug.

- I. (*Perna*) *torta*, Say, Sillim. Journ. ii. 38.
Perna maxillata, C. (not Lam.,) Miocene Foss. 51, 27.
P. Conradii, D'Orbig. Prodrom. iii. 127.

TRIGONIIDÆ.

VERTICORDIA, Wood.

- V. *Emmonsii*, C. Emmons, Geol. N. C. 286, 206.

ARCIDÆ.

SCAPHARCA, Gray.

- S. (*Arca*) *arata*, Say, Journ. A. N. S. iv. 10, 1. C. Miocene Foss. 58, 30, 6.
- S. (*Arca*) *æquicostata*, C. Miocene Foss. 60, 31, 6. Tuomey and Holmes, Plioc. Foss. S. C. 44, 16, 3, 4.
- S. (*Arca*) *callipleura*, C. Miocene Foss. 54, 29, 2.
- S. (*Arca*) *idonea*, C. Foss. Shells of Tert. Form. 15, 1, 5. Miocene Foss. 55, 29, 3. Emmons, Geol. N. C. 285.
- S. (*Arca*) *incongrua*? Say, Tuomey and Holmes, Plioc. Foss. 45, 16, 5, 6.
- S. (*Arca*) *improcera*, C. Miocene Foss. 60, 31, 5. Tuomey and Holmes, Plioc. Foss. S. C. 41, 15, 4, 5.
- S. (*Arca*) *lineolata*, C. Miocene Foss. 61, 32, 3.
A. sublineolata, D'Orbig. Prod. iii. 125.
- S. (*Arca*) *liensis*, Say, Amer. Conch. pl. 36. Tuomey and Holmes, Plioc. Foss. S. C. 40, 15, 2, 3. Emmons, Geol. N. C. 284, 204.
- S. (*Arca*) *plicatura*, C. Miocene Foss. 61, 32, 4.

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- S. (*Arca*) *rustica*, Tuomey and Holmes, *Plioc. Foss.* S. C. 39, 15, 1.
 S. (*Arca*) *stillicidium*, C. Foss. Shells of Tert. Form. 14, 1, 3.
 S. (*Arca*) *scalaris*, C. Miocene Foss. 59, 31, 1. Proceed. A. N. S. i. 324. Tuomey and Holmes, *Plioc. Foss.* S. C. 43, 16, 1, 2. Emmons, *Geol. N. C.* 284.
 S. (*Arca*) *subsinuata*, C. Miocene Foss. 62, 32, 6.
 S. (*Arca*) *subrostrata*, C. Miocene Foss. 58, 30, 7.
 S. (*Arca*) *transversa*? Say, C. Foss. Shells of Tert. Form. 14, 1, 2. Tuomey and Holmes, *Plioc. Foss.* 42, 15, 6, 7. Emmons, *Geol. N. C.* 285.
 S. (*Arca*) *triquetra*, C. Miocene Foss. 59, 31, 2.

NCETIA, Gray.

- N. (*Arca*) *Carolinensis*, C. Proceed. A. N. S. 1862, 290.
 N. (*Arca*) *limula*, C. Foss. Shells of Tert. Form. 15, 1, 1. Miocene Foss. 60, 31, 3.

ARGINA, Gray.

- A. (*Arca*) *pexata*, Say, Journ. A. N. S. ii. 268. Tuomey and Holmes, *Plioc. Foss.* S. C. 46, 16, 7, 8.

ANOMOLOCARDIA, Klein.

- A. (*Arca*) *incile*, Say, Journ. A. N. S. iv. 139, 10, 8. C. Fossil Shells of Tert. Form. 16, 21. Miocene Foss. 56, 29, 5. Tuomey and Holmes, *Plioc. Foss.* S. C. 35, 14, 6, 7. Emmons, *Geol. N. C.* 284.
 A. *trigintinaria*, C. Proceed. A. N. S. 1862, 289.
 A. (*Arca*) *protracta*, Rogers, Trans. Amer. Philos. Soc. v. 332; and vi. 337, 26, 5. C. Miocene Foss. 58, 30, 5.

STRIARCA, Conrad. 1862.

- S. (*Arca*) *centenaria*, Say, Journ. A. N. S. iv. 138, 10, 2. C. Foss. Shells of Tert. Form. 16, 1, 4. Miocene Foss. 55, 29, 4. Tuomey and Holmes, *Plioc. Foss.* S. C. 37, 15, 11, 12. Emmons, *Geol. N. C.* 284, 205.

BARBATIA, Gray.

- B. (*Arca*) *cæolata*, C. Miocene Foss. 61, 32, 2. Tuomey and Holmes, *Plioc. Foss.* S. C. 36, 14, 8.
 B. (*Arca*) *hians*, Tuomey and Holmes, *Plioc. Foss.* S. C. 34, 14, 4, 5.
 B. (*Byssarca*) *Marylandica*, C. Miocene Foss. 54, 29, 1.

Subgenus GRANOARCA, Conrad. 1862.

- B. (*Arca*) *propatula*, C. Miocene Foss. 61, 32, 1.

AXINÆINÆ.

AXINÆA, Poli.

- A. (*Pectunculus*) *arata*, C. Sillim. Journ. xli. 346. Miocene Foss. 62, 3, 2. Tuomey and Holmes, *Plioc. Foss.* S. C. 50, 17, 6. Emmons, *Geol. N. C.* 287, 208.
 A. (*Pect.*) *Carolinensis*, C. Sillim. Journ. xli. 346. Miocene Foss. 63, 35, 2.
 A. (*Pect.*) *lævis*, Tuomey and Holmes, *Plioc. Foss.* S. C. 50, 17, 5.
 A. (*Pect.*) *lentiformis*, C. Miocene Foss. 64, 36, 2. Tuomey and Holmes, *Plioc. Foss.* S. C. 48, 17, 2. Emmons, *Geol. N. C.* 286.
 A. (*Pect.*) *passa*, C. Miocene Foss. 64, 35, 3. Tuomey and Holmes, *Plioc. Foss.* S. C. 48, 17, 3.
 A. (*Pect.*) *parilis*, C. Proceed. A. N. S. i. 306. Miocene Foss. 64, 36, 2.
 A. (*Pect.*) *quinquerugata*, C. Sillim. Journ. xli. 346. Miocene Foss. 63, 34, 3. Tuomey and Holmes, *Plioc. Foss.* S. C. 49, 17, 4.
 A. (*Pect.*) *tricenaria*, C. Miocene Foss. 63, 35, 1.
 A. (*Pect.*) *transversa*, Tuomey and Holmes, *Plioc. Foss.* 51, 17, 6c.

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- A. (Pect.) subovata, Say, Journ. A. N. S. iv. 140. C. Foss. Shells of Tert. Form. 17, 2, 3. Miocene Foss. 62, 34, 1. Tuomey and Holmes, Plioc. Foss. S. C. 47, 17, 1. Emmons, Geol. N. C. 286, 207.
- A. (Pect.) tumulus, C. Miocene Foss. 72, 41, 4.

NUCULIDÆ.

NUCULA, Lam.

- N. dolabella, H. C. Lea, Trans. Amer. Philos. Soc. ix. 242, 34, 25.
- N. diaphana, H. C. Lea, ib. 243, 34, 26.
- N. proxima? Say, Journ. A. N. S. ii. 270. Tuomey and Holmes, Plioc. Foss. S. C. 53, 17, 7-8. Emmons, Geol. N. C. 287, 208B.
- N. obliqua, Say, (not Lam.) Sillim. Journ. ii. 40, 1820.

NUCULANA, Link.

- N. (Nucula) acuta, C. Marine Conch. pl. 6, f. 3. Miocene Foss. 57, 30, 2. Tuomey and Holmes, Plioc. Foss. S. C. 53, 17, 10-12. Emmons, Geol. N. C. 287, 208A.
- N. (Nucula) acutidens, H. C. Lea, Trans. Amer. Philos. Soc. ix. 244, 34, 28.
- N. (Nucula) carinata, H. C. Lea, ib. 244, 34, 29.
- N. (Nucula) concentrica, Say, Journ. A. N. S. iv. pl. 10, f. 6. Amer. Conch. pl. 12. C. Miocene Foss. 57, 30, 3.
- N. (Nucula) liciata, C. Miocene Foss. 64, 36, 3.

YOLDIA.

- Y. eborea, C. n. s.
- Y. (N.) lævis, Say, Journ. A. N. S. iv. 141, 10, 5.
- N. limatula Tuomey and Holmes, (not Say,) Plioc. Foss. S. C. 52, 17, 3.

PECTINIDÆ.

PECTEN, Lin.

- P. biformis, C. Miocene Foss. 73, 42, 1.
- P. Clintonius, Say, Journ. A. N. S. iv. 135, 9, 2. C. Miocene Foss. 47, 23, 1.
- P. principoides, Emmons, Geol. N. C. 280, 198.
- P. comparilis, Tuomey and Holmes, Plioc. Foss. S. C. 29, 11, 6-10. Emmons, Geol. N. C. 279.
- P. concentricus? Say, C.
- P. decemnarius, C. Journ. A. N. S. vii. 151. C. Miocene Foss. 49, 24, 2.
- P. Edgecomensis, C. Proceed. A. N. S. 1862, 291.
- P. dispalatus, Miocene Foss. 74, 42, 3.
- P. eboreus, C. Sillim. Journ. xxiii. 341. Miocene Foss. 48, 23, 2, and 24, 3.
- Tuomey and Holmes, Plioc. Foss. S. C. 28, 11, 1. Emmons, Geol. N. C. 279, 197.
- P. Holbrookii, Ravenel, Tuomey and Holmes, Plioc. Foss. S. C. 28.
- P. fraternus, Con. Proceed. A. N. S. 1862, 291.
- P. Jeffersonius, Say, Journ. A. N. S. iv. 133, 9, 1. C. Miocene Foss. 46, 22, 1.
- Emmons, Geol. N. C. 281, 199, and 282, 201.
- P. Marylandicus, Wagner, Journ. A. N. S. viii. 51, 1, 1.
- P. Madisonius, Say, Journ. A. N. S. iv. 134. C. Miocene Foss. 48, 24, 1. Emmons, Geol. N. C. 282, 200.
- P. micropleura, H. C. Lea, Trans. Amer. Philos. Soc. ix. 245, 35, 23.
- P. Pedéensis, Tuomey and Holmes, Plioc. Foss. S. C. 30, 12, 1. Emmons, Geol. N. C. 281.
- P. Rogersi, C. Miocene Foss. 45, 21, 9.
- P. septenarius, Say, Journ. A. N. S. iv. 136, 9, 3. Miocene Foss. 47, 22, 2.
- Tuomey and Holmes, Plioc. Foss. S. C. 31, 13, 1-4.
- P. tenuis, H. C. Lea, Trans. Amer. Philos. Soc. ix. 246, 35, 33.

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- P. tricenarius*, C. Miocene Foss. 74, 42, 2.
P. Virginianus, C. Miocene Foss. 46, 21, 10.
P. vicenarius, C. Proceed. A. N. S. i. 306.

VOLA, Klein.

- V?* (*Janira*) *affinis*, Tuomey and Holmes, Plioc. Foss. S. C. 26, 8, 56.
V. (*Janira*) *hemicycla*, Ravenel, Tuomey and Holmes, Plioc. Foss. S. C. 25, 8,
 1-4.
V. (*Pecten*) *Humphreysii*, C. Bullet. Nat. Inst. 194, 2, 2.

AMUSIUM, Klein.

- A.* (*Pecten*) *Mortoni*, Ravenel. Tuomey and Holmes, Plioc. Foss. S. C. 27, 10,
 1, 2. Emmons, 281.

RADULIDÆ.

RADULA, Klein.

- R.* (*Lima*) *papyria*, C. Miocene Foss. 76, 43, 7.

SPONDILIDÆ.

PLICATULA, Lam.

- P. densata*, C. Proceed. A. N. S. i. 311. Miocene Foss. 75, 43, 6.
P. marginata, Say, Journ. A. N. S. iv. 9, 4. C. Miocene Foss. 75. Tuomey and
 Holmes, Plioc. Foss. S. C. 24, 7, 11.
P. rudis, H. C. Lea, Trans. Amer. Philos. Soc. ix. 246, 35, 34.

ANOMIIDÆ.

ANOMIA, Lin.

- A. delumbis*, C. n. s.
A. Conradi, D'Orbig.
A. ephippium? var. C. Journ. A. N. S. vii. Miocene Foss. 75, 43, 4. Tuomey
 and Holmes, Plioc. Foss. S. C. 18, 5, 4. Emmons, Geol. N. C. 277.
A. Conradi, D'Orbig., Prodrom. iii. 134, 25, 30.
A. Ruffini, C. Proceed. A. N. S. i. 323. Miocene Foss. 74, 42, 6.

PLACUNANOMIA, Brod.

- P. plicata*, Tuomey and Holmes, Plioc. Foss. S. C. 19, 6, 4.

OSTREIDÆ.

OSTREA, Linn.

- O. disparilis*, C. Miocene Foss. 51, 24.
O. Mauricensis, Gabb, Journ. A. N. S. iv. 67. 26, (1860.)
O. percrassa, C. Miocene Foss. 50, 25, 1.
O. Ravenelliana, Tuomey and Holmes, Plioc. Foss. S. C. 21, 6, 1.
O. sculpturata, C. Miocene Foss. 50, 25, 3.
O. subfalcata, C. Miocene Foss. 50, 25, 2.
O. Virginiana? Gmel. Tuomey and Holmes, Plioc. Foss. S. C. 20, 5, 6-9.

ORBICULIDÆ.

ORBICULA, Sowerby.

- O. lugubris*, C. Miocene Foss. 75, 43, 2. Tuomey and Holmes, Plioc. Foss. S.
 C. 17, 5, 1. Emmons, Geol. N. C. 274, 187.
Capulus lugubris, C. Journ. A. N. S. vii. 143.
O. multilinea, C. Miocene Foss. 75, 43, 3. Tuomey and Holmes, Plioc. Foss.
 S. C. 18, 5, 2.

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VENERIDÆ.

CIRCUMPHALUS, Klein.

Subgenus LIROPHORA, Conrad.

C. athleta.—Triangular, thick in substance, with eight broad, prominent, recurved ribs, striated at the base; ribs without posterior laminæ; lunule cordate.

V. latilirata, Tuomey and Holmes (not Conrad).

Locality.—Virginia.

Distinguished from *latilirata* by its more numerous and narrower ribs, and larger size. The marginal crenulations are much less distinct, and the umbo broader.

The subgenus is characterized by broad, thick, recurved ribs. The following recent species belong to it: *Venus tiara*, *Dill.*; *V. paphia*, *L.*; *V. Kellettii*, *Hinds*; *V. varicosa*, *Sowerby*; *V. fasciata*, *Don*.

DIONE, Gray.

D. densata.—Ovato triangular, convex, inequilateral; umbo somewhat flattened, and the substance of shell thick in that part, and more so towards the muscular impressions; pallial sinus strongly defined and rounded; lunule lanceolate; anterior cardinal tooth rather thick; posterior extremity acutely rounded; surface polished, with strong lines of growth. Length $2\frac{1}{2}$ inches, height 7-10.

Locality.—Petersburg, Va.

Thicker than *albaria*, Say, with a less concave lunule margin, and otherwise very distinct.

D. Virginiana.—Ovate, rather thin, slightly ventricose, inequilateral; lunule long, lanceolate, defined by a slight groove and carinated line; basal margin profoundly rounded medially; cardinal teeth prominent, compressed. Length 4 inch. 7-10, height 3 5-10.

Locality.—Petersburg, Va.

SCROBICULINÆ.

FABELLA, Conrad.

Suboval, inequilateral, posterior side shortest; cardinal teeth in right valve two, anterior one submarginal, straight, rudimentary; the other thick, recurved, with a pit behind it; teeth separated by a profound oblique cartilage pit; left valve with three teeth, the anterior one slightly curved, and a pit behind it, separated from the cartilage cavity by a slightly oblique tooth; posterior tooth rudimentary and parallel with the hinge margin; muscular impressions near the hinge.

F. (*Amphidesma*) *constricta*, *C*.

A small bivalve from the Virginia Miocene.

Errata.

Page 561, erase *Busycon scalaris*.

563, for "MEGOPTYGMA" read MEGAPTYGMA.

564, for "cælata" read cælatus.

566, for "curtum" read curta.

566, for "(Odostomea)" read (Odostomia).

567, for "F. (Cancellaria) biplicifera" read C. biplicifera.

570, for "quadricostata" read quadricostatus.

570, for "duodecenaria" read duodecenarium.

571, for "(Hidella)" read (Hiatella).

573, for "PERONÆDERMA" read PERONÆODERMA.

573, for "*fluzuosa*" read *flexuosa*.

576, for "craticuloides" read craticuloide.

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